

Remarks

In the official action mailed January 18, 2007, the examiner maintained the rejection of claims 1, 2 and 4 under 35 U.S.C. § 103(a) over CN'218. The examiner also maintained the rejection of claim 3 under 35 U.S.C. § 103(a) over CN'218 in view of U.S. Patent No. 6,689,184 to Morris ("Morris"). The examiner also instituted the following **new** rejections:

1. Claims 5-7, 10 and 11 are rejected under 35 U.S.C. § 103(a) over CN'218 as applied to claim 1.
2. Claims 1-7, and 11 stand rejected under 35 U.S.C. § 103(a) over CN'218 in view of Soviet Union Patent 1678867 (SU'867), or U.S. patent No. 3,816,099 to Stewart et al., or U.S. Patent No. 3,809,547 to Lewis et al.
3. Claims 1-7, and 11 stand rejected under 35 U.S.C. § 103(a) over U.S. patent No. 4,919,711 to Banyai et al.
4. Claim 10 is rejected under 35 U.S.C. § 103(a) over Soviet Union Patent 1678867 (SU'867), or U.S. patent No. 3,816,099 to Stewart et al., or U.S. Patent No. 3,809,547 to Lewis et al. as applied to claim 1, and further in view of Japanese Patent 03-023243 (JP'243, Ceramics Monthly (2001) and digitalfire.com (2001)).
5. Claim 10 is rejected under 35 U.S.C. § 103(a) over Banyai et al. as applied to claim 1 and further in view of Japanese Patent 03-023243 (JP'243), Ceramics Monthly (2001) and digitalfire.com (2001).

The examiner also indicated that the rejection of claims 5 and 6 under 35 U.S.C. § 102(b) over Chinese patent 1153218 (CN'218) is withdrawn in view of applicant's amendments.

In response to the rejections applicants provide the following distinguishing comments, which are believed to place the present case in condition for allowance. Favorable reconsideration of all of the pending claims is respectfully requested.

Initially, applicants note that the examiner has made a total of seven (7) different art based rejections to reject applicants' eight (8) pending claims. Additionally, the examiner has made the subject action final even though five (5) new rejections were made and new art was applied to reject applicant's claims. Applicants believe this to be improper. More specifically, the examiner is respectfully referred to MPEP 706.07(a), second paragraph, where the following is stated:

Furthermore, a second or subsequent action on the merits in any application or patent undergoing reexamination proceedings will not be made final if it includes a rejection, on newly cited art, other than information submitted in an information disclosure statement filed under 37 C.F.R. 1.97 (c) with the fee set forth in 37 C.F.R. 1.17 (p), of any claim not amended by applicant or patent owner in spite of the fact that other claims may have been amended to require newly cited art. (Emphasis ours).

In view of the foregoing, applicants respectfully direct the examiner's attention to the fact that claims 3, 4 and 6 were **NOT amended** in applicants' last response (filed October 31, 2006) and despite that fact, said claims were all subject to new rejections based on newly cited art in the present action that was made final. In accordance with the above passage of MPEP 706.07(a), it was clearly improper to make the present Action final since it includes rejections, on newly cited art of claims not amended by applicant in their last response. (This is in spite of the fact that other claims may have been amended to require newly cited art). Accordingly, reconsideration and withdrawal of the finality of the subject Action is respectfully requested.

In the event that the finality of the present Action is not withdrawn, applicants respectfully request that the examiner thoroughly explain why such withdrawal is not necessary, especially in view of the above quote from MPEP 706.07(a).

Applicants hereby affirm the election of sodium borate in claims 1-7, 10 and 11 for prosecution on the merits. The election is made with traverse and applicants reserve the right to file a divisional application directed to the non-elected subject matter in due course.

I. The Rejection of Claims 1, 2 and 4 Under 35 U.S.C. § 103(a) over CN'218

The examiner is respectfully requested to note the further amendments to claims 1, 2 and 4, wherein it has been specified that the binder additive is boron oxide, calcium borate, sodium borate, boron nitride, and mixtures thereof. It is respectfully submitted that the process and binder additives of claim 1 are clearly not disclosed or suggested by CN'218.

Claim 2 further specifies that the binder additive is selected from sodium tetraborate, calcium tetraborate, and mixtures thereof, while claim 4 specifies that the binder system comprises an organic binder. Both claims 2 and 4 are dependent on claim 1, and applicants respectfully submit that these claims are also not rendered unpatentable by CN'218.

In view of the foregoing distinguishing remarks, applicants respectfully submit that CN'218 cannot be reasonably interpreted as rendering claims 1, 2 and 4 unpatentable under 35 U.S.C. § 103(a). The present rejection is therefore believed to be overcome; reconsideration and withdrawal thereof is respectfully requested.

II. The Rejection of Claim 3 Under 35 U.S.C. § 103(a) over CN'218 in view of U.S. Patent No. 6,689,184 to Morris.

In support of this rejection the examiner states that "CN'218 does not teach sodium borate is added to the pellets." (See page 4, 3rd paragraph of the office action.) In order to alleviate this deficiency, the examiner relies on Morris and states the following:

"Morris teaches a method for molding and forming rust-prone iron based powders (abstract). Morris teaches that sodium borate functions as a pH buffer to inhibit corrosion (rusting) of iron (col. 3 lines 1-15). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use sodium borate as an additive as taught by Morris in the binder composition of CN'218 to inhibit corrosion as taught by Morris, which one of ordinary skill in the art would expect to benefit both the pellets and the equipment used for blending and pelletization." (Emphasis ours).

(page 4, 4th full paragraph of the office action.)

Morris cannot be reasonably construed as alleviating the considerable deficiencies of CN'218. In this regard, the examiner is respectfully requested to note that the claimed process relates to pelletizing unreduced iron containing ores, i.e., ore materials containing Fe₂O₃. These are unreduced iron ores, i.e., ores that contain Fe₂O₃ and it is well known to the skilled artisan that these materials DO NOT oxidize, and therefore they are not susceptible to rust!! Since CN'218 relates to a process for pelletizing unreduced iron containing ores that are not susceptible to rust, applicants respectfully submit that one of ordinary skill in the art would clearly NOT be motivated to use sodium borate as an additive as taught by Morris in the binder composition of CN'218 to inhibit corrosion as taught by Morris. In fact, applicants submit that since the documents themselves fail to provide any motivation for the combination employed by the examiner, it is evident that this combination could only have been made through

hindsight reliance on applicants' disclosure. This clearly renders the subject rejection improper; reconsideration and withdrawal thereof is respectfully requested.

III. The Rejection of Claims 5-7, 10 and 11 under 35 U.S.C. § 103(a) over CN'218 as applied to claim 1.

Claim 5 is dependent on claim 1 and is directed to the process of claim 1 wherein said binder system comprises carboxymethyl cellulose and a binder additive selected from boron oxide, calcium borate, sodium borate, boron nitride, and mixtures thereof. CN'218 does not disclose or suggest the process of claim 5, and specifically the binder system contemplated thereby.

Claims 6, 7 and 10 are either directly or indirectly dependent on claim 1 are not rendered unpatentable for the same reasons as relied on above.

Finally, the process of claim 11 utilizes a binder system that comprises carboxymethyl cellulose and a binder additive selected from sodium tetraborate, calcium tetraborate and mixtures thereof. CN'218 clearly does not disclose or suggest the binder system of claim 11.

For all of the foregoing reasons, the subject rejection is believed to be improper; reconsideration and withdrawal thereof is respectfully requested.

IV. The Rejection of Claims 1-7, and 11 Under 35 U.S.C. § 103(a) over CN'218 in view of SU'867, or Stewart et al., or Lewis et al.

The distinguishing comments made above with respect to CN'218 are incorporated herein by reference.

SU'867 relates to the manufacture of unfired pellet based fuel flux ore. SU'867 utilizes borax or boric acid to produce a protective coating on solid fuel particle surface to prevent the early reaction between the fuel and Fe oxides when the pellets

melt. The process of SU'867 is totally different than the process for agglomerating iron ore claimed by applicants, or the process of CN'218 for that matter. Additionally, there is clearly no motivation to combine these two non-analogous processes. Finally, the fact that boric acid and borax "may" be equivalent as protective coatings on the surface of the fuel pellets of SU'867 is not believed to be relevant to the claimed agglomeration process. Therefore, SU'867 clearly be reasonably construed as alleviating the substantial deficiencies of CN'218.

Stewart relates to a beneficiation process wherein flux is utilized in order to assist in producing metallic iron concentrates and high grade titanium dioxide. The fact that boric acid and/or borax "may" be equivalent as fluxes in the beneficiation process of Stewart is simply irrelevant to the claimed agglomeration process. Accordingly, this document simply cannot alleviate the substantial deficiencies of CN'218.

Finally, Lewis discloses a method and additive for increasing the dissolution of lime in the slag of an electric furnace. Acceptable additives include boron containing compounds such as boric acid and sodium tetraborate. The method of Lewis has absolutely nothing to do with the agglomeration process of the claimed invention. Thus, the fact that Lewis teaches that boric acid and sodium tetraborate may be used as additives for increasing the dissolution of lime in the slag of an electric furnace is totally irrelevant to the claimed invention.

In summary, applicants respectfully submit that the primary reference clearly does not render the claimed invention unpatentable because the process and binder additives of the invention are clearly not disclosed or suggested by CN'218. Further, the secondary references all relate to non-analogous processes, i.e., SU'867 relates to the manufacture of unfired pellet based fuel flux ore; Stewart relates to a beneficiation process; and Lewis discloses a method and additive for increasing the dissolution of lime in the slag of an electric furnace. The fact that each of the secondary documents may suggest that boric acid and borax are equivalent for their respective processes is

irrelevant because **NONE of these documents discloses or suggests that they are equivalent in the claimed agglomeration process.**

Additionally, since the secondary documents all relate to non-analogous processes, applicants respectfully submit that absent hindsight reliance on applicants' disclosure, there is simply no motivation to combine them with the process of CN'218. In view of the above, applicants respectfully submit that it would not have been obvious to one of ordinary skill in the art to use the sodium tetraborate of SU'867, or Stewart, or Lewis in the pellets of CN'218 since none of the secondary documents disclose or suggest that they are equivalent in agglomeration processes in general, or in improving the preheat strength of agglomerates as made by the claimed process. The present rejection is therefore believed to be improper; reconsideration and withdrawal thereof is respectfully requested.

V. The Rejection of Claims 1-7, and 11 Under 35 U.S.C. § 103(a) Over Banyai et al.

Banyai discloses a binder for agglomerating a concentrated ore in the presence of water comprising

1. a water-soluble polymer such as CMC, and
2. sodium tripolyphosphate.

Sodium tetraborate is mentioned in 3-12 as a comparative example, but the examiner is respectfully requested to note that the performance of the binder of 3-12 is **clearly inferior** to that of Banyai's binder. Thus, because of this poor performance, applicants respectfully submit that one of ordinary skill in the art would actually construe Banyai as **teaching against** the use of sodium tetraborate as a binder additive. In view of the foregoing, applicants respectfully submit that the Banyai cannot be reasonably construed as rendering the claimed invention obvious; reconsideration and withdrawal thereof is respectfully solicited.

VI. The Rejection of Claim 10 Under 35 U.S.C. § 103(a) over CN'218 in view of SU'867, or Stewart et al., or Lewis et al. as applied to claim 1, and further in view of JP'243, Ceramics Monthly (2001) and digitalfire.com (2001).

Applicants' distinguishing comments with respect to CN'218, SU'867, Stewart et al., and Lewis et al. are incorporated herein by reference.

The fact that borax, colemanite or ulexite may be equivalents in the process for modifying slag of JP'243 **DOES NOT** mean that such compounds would perform equivalently in the claimed agglomeration process. Thus, it is not seen how JP'243 can reasonable be interpreted as alleviating the deficiencies of the primary reference.

Ceramics Monthly (2001) relates to ceramic bodies, which is totally unrelated to the claimed invention. Further, the fact that this document recognizes that certain materials are equivalent for ceramics does not mean, or suggest that such materials are equivalent in applicants' agglomeration processes.

Digitalfire.com appears to relate to pottery making. Again, the fact that certain materials may be equivalent for pottery purposes DOES NOT mean that they would be equivalent in the claimed agglomeration process. This is reinforced by the following statement found at line 3 of Digitalfire.com: "No one material or approach is going to be a miracle substitute, that is guaranteed." If such materials are not guaranteed to be substitutes in pottery making...what evidence does the examiner have that they would be acceptable substitutes in applicants' process?


In view of the foregoing, applicants respectfully submit that the examiner has not made out a sustainable rejection of claim 10 under 35 U.S.C. 103(a). The rejection is therefore believed to be improper; reconsideration and withdrawal thereof is respectfully requested.

VII. The Rejection of Claim 10 Under 35 U.S.C. § 103(a) Over Banyai et al. as applied to claim 1 and further in view of JP'243, Ceramics Monthly (2001) and digitalfire.com (2001).

Initially, the distinguishing comments made with respect to Banyai, JP'243, ceramics Monthly and Digitalfire.com are incorporated herein by reference. As discussed in detail above, the secondary references all relate to non-analogous processes and there is absolutely no teaching or motivation for picking isolated teachings within those documents and combining them with Banyai. The rejection is therefore believed to be improper; reconsideration and withdrawal thereof is respectfully requested.

Therefore, in view of the amendments and remarks herein, the present application is believed to be in condition for allowance, which action is earnestly solicited. Should the examiner have any questions, she is urged to contact the undersigned at the number listed below.

Respectfully submitted,



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